

CLAIMS

I CLAIM:

1. A method of constructing a vaginal delineator and occluder comprising a solid ring, a plurality of legs, and a base for securing said apparatus to a uterine mobilizer; said method comprising:

- (a) operably, pivotally mounting the solid ring to the plurality of legs; and
- (b) operably affixing the legs to the base.

2. The method of claim 1 wherein at least some of the plurality of legs comprise a distal arm, an outer telescoping arm, and an inner telescoping arm, the method additionally comprising:

- (a) operably, securely affixing the distal arm to the base;
- (b) operably, pivotally affixing the outer telescoping arm to the solid ring;
- (c) engaging a proximal end of the inner telescoping arm into the outer telescoping arm; and
- (d) operably, pivotally attaching a distal end of the inner telescoping arm a proximal end of the distal arm.

3. The method of claim 2, each of the at least some of the plurality of legs also comprising a spring tending to separate the base from the solid ring, the method additionally comprising engaging said spring between the distal arm and the outer telescoping arm such that the spring bears on the distal arm and the outer telescoping arm and forces them apart.

4. The method of claim 2 wherein all the plurality of legs comprise a distal arm, an outer telescoping arm, and an inner telescoping arm.

5. A method of constructing a vaginal delineator and occluder comprising a solid ring, a base for securing said apparatus to a uterine mobilizer, and a cup to obstruct a vagina to prevent leakage of carbon dioxide from a peritoneal cavity; said method

comprising:

- (a) operably, pivotally mounting the solid ring to a rim of the cup; and
- (b) operably, rigidly mounting the base to the cup.

5 6. The method of claim 5 wherein the solid ring is circular and the pivotal mounting has an axis through a diameter of the ring.

7. The method of claim 5 wherein the solid ring pivots on its pivotal mounting about 15°.

10 8. The method of claim 7 additionally comprising the steps of:

- (a) sloping a rim of the cup is about 15° each way from a diameter to allow clearance for the ring to pivot; and
- (b) operably, pivotally attaching said ring at an apex of the rim.

15 9. The method of claim 1 wherein the vaginal delineator additionally comprises a diaphragm of elastic material used to obstruct a vagina to prevent leakage of carbon dioxide from a peritoneal cavity, the method additionally comprising the steps of:

- (a) constructing the diaphragm with a thicker periphery than a middle membrane;
- (b) constructing the diaphragm with a thicker inner annulus than the middle membrane; and
- (c) providing a hole in a center of the diaphragm for receiving the base of the vaginal delineator and occluder.

20 10. The method of claim 9 wherein a plurality of sizes of the diaphragm of elastic material is available.

25 11. An apparatus for vaginal delineation and occlusion, said apparatus being inserted into a uterine mobilizer, the apparatus comprising:

- (a) a solid ring;
- (b) a plurality of legs to which the ring is operably, pivotally mounted; and
- (c) a base for securing said apparatus to the uterine mobilizer, the legs being operably affixed to the base.

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12. The apparatus of claim 11 additionally comprising a plurality of legs, the length of said legs being variable to permit the solid ring to tilt to accommodate various angles of a fornix.

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13. The apparatus of claim 12 wherein the variable-length legs comprise:

- (a) a distal arm, securely, operably affixed to the base;
- (b) an outer telescoping arm, pivotally affixed to the solid ring; and
- (c) an inner telescoping arm connecting the distal arm and the outer telescoping arm, the inner telescoping arm sliding into the outer telescoping arm.

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14. The apparatus of claim 13 additionally comprising a spring tending to force the distal arm and the outer telescoping arm apart.

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15. An apparatus for vaginal delineation and occlusion, said apparatus being constructed to be inserted into a uterine mobilizer, the apparatus comprising:

- (a) a cup to obstruct a vagina to prevent leakage of carbon dioxide from a peritoneal cavity;
- (b) a solid ring operably, pivotally mounted to the cup; and
- (c) a base for securing said apparatus to the uterine mobilizer, said base being operably, rigidly mounted to the cup.

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16. The apparatus of claim 15 wherein the solid ring is substantially circular, the apparatus additionally comprising a pivotal axis through a diameter of the solid ring at which the solid ring is operably, pivotally mounted to the cup.

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17. The apparatus of claim 15 additionally comprising clearance to permit the solid ring to pivot about 15°.

5 18. The apparatus of claim 17 additionally comprising:

- (a) a sloped rim of the cup, said slope being about 15° each way from a diameter to allow clearance for the ring to pivot; and
- (b) an attachment pin, having an axis at an apex of the cup's rim to which the ring is operably, pivotally attached.

10 19. An elastic diaphragm for use with a vaginal delineation and occlusion device, said diaphragm comprising:

- (a) a hole in a center of the diaphragm for engaging a base of the vaginal delineation and occlusion device;
- 15 (b) a first annulus surrounding said hole;
- (c) a membrane of annulus shape bordering an outer circumference of the first annulus, said membrane being of thinner material than the first annulus; and
- (d) an outer periphery being of thicker material than the membrane.

20 20. The elastic diaphragm of claim 19 wherein said diaphragm is made of silicone.